

IN-SITU DETECTION OF TRANSDUCER MAGNETIC INSTABILITY IN
A DISC DRIVE

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Abstract of the Disclosure

The method and apparatus herein identifies instability events occurring within a magneto-resistive head. The method commences by positioning magneto resistive head over a selected area of a disk that has no transitions, and then iteratively setting a read bias, and a thermal asperity threshold for counting and analysis of magneto resistive head instability events. The sensitivity of the thermal asperity detector is tuned to detect events that indicate magneto resistive head instability generated by the MR head over regions where magnetic transitions have been erased. The analyzed events are then used to determine the action taken related to the reliability of the head, that is, whether to reject or attempt to reduce the amount of instability related output. The apparatus includes without limitation a preamplifier, a read channel with a thermal asperity detector, and a comparator for counting and analyzing the resultant signals tested via biasing the magneto resistive head in a disc drive.

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